

**PACIFIC GAS AND ELECTRIC COMPANY
Wildfire Mitigation Plans Discovery 2023
Data Response**

PG&E Data Request No.:	OEIS_014-Q001		
PG&E File Name:	WildfireMitigationPlansDiscovery2023_DR_OEIS_014-Q001		
Request Date:	October 6, 2023	Requester DR No.:	P-WMP_2023-PG&E-014
Date Sent:	October 11, 2023	Requesting Party:	Office of Energy Infrastructure Safety
DRU Index #:		Requester:	Dakota Smith

SUBJECT: REGARDING WILDFIRE COST BENEFIT ANALYSIS

QUESTION 001

- a) In PG&E’s Supplemental Revision Notice Response, PG&E states that it “will be moving away from the WFE to a Wildfire Benefit Cost Analysis (WBCA) at the circuit segment level.” (p. 78)
 - i) How does PG&E’s WBCA factor in feasibility?
 - ii) How does PG&E determine which mitigations are used in combination when evaluating across effectiveness (i.e. the example in Table RN-PG&E-23-05-3 shows covered conductor with EPSS and DCD)? Please provide the calculations used for the monetized risk values shown in Table RN-PG&E-23-05-3 (p. 84).
 - iii) How is PG&E calculating the monetized risk avoidance (as described on p. 82)?
- b) PG&E also states that it “plans to present the benefit/cost model and mitigation selection results using this model in our Senate Bill (SB) 884 plan that we intend to file with Energy Safety” (p. 82)
 - i) What is PG&E’s timeline for the development and implementation of WBCA? This should include (but not be limited to) when PG&E is planning on phasing from WFE to WBCA, as well as when PG&E’s undergrounding and hardening plans will begin to be informed by WBCA opposed to WFE.
- c) Has PG&E analyzed the prioritization or mitigation selection difference between implementing WFE vs. WBCA? If so, provide all such supporting analysis.

ANSWER 001

The information in this data response is PG&E’s best current information on future approaches to undergrounding project selection and prioritization. The future approach discussed on page 78 has not been fully developed, approved or implemented within PG&E. While PG&E has answered the questions to the best of our current ability and based on current available information, the development of and output from the WBCA is still on-going and may ultimately be different than the information provided herein.

- a)

- i. Identifying an undergrounding project consists of three basic steps: 1) selection of a high priority circuit segment, 2) evaluation of the preferred mitigation alternative, and 3) refinement of priority order. Sites are selected (step 1) based on wildfire risk from PG&E's Wildfire Distribution Risk Model (WDRM) excluding feasibility. Feasibility is then one of multiple factors that is used in steps 2 and 3 of the project identification process.
- ii. PG&E selects the mitigation with the highest net benefit. In the example provided in Table RN-PG&E-23-05-3, for Circuit Segment 1, the mitigation with the highest net benefit is Underground (UG) Primary, Overhead Harden (OH) Secondaries and Services. For Circuit Segment 2, the mitigation with the highest net benefit is Covered Conductor Rebuild with EPSS and DCD.

The combination of mitigations is based on the mitigations (e.g., EPSS and DCD where covered conductor is installed) currently applied across PG&E's system.

As it relates to monetized risk values: In December 2022 the CPUC issued a decision in the Risk-Based Decision-Making Framework (RBDF) Order Instituting Rulemaking (OIR) that replaced the MAVF that California utilities had been using to evaluate different mitigations with a cost-benefit approach that includes standardized dollar valuations for consequences from risk events.¹ The decision also approved the use of specific methods and sources of information to determine a standard dollar value of each risk attribute – safety, electric reliability, and gas reliability.² PG&E's calculations for monetized risk avoidance are aligned with the RBDF framework.

The workplan submitted in this WMP is based on PG&E's WDRM. None of the 2023-2026 projects included in the WMP workplan were selected using the WBCA. The WBCA is being developed to support PG&E's 10-year (SB884) undergrounding plan and we anticipate finalizing the WBCA for that submission. We will eventually use the WBCA to inform project selection for PG&E's long-term undergrounding plan and future WMPs.

The basic calculation for monetized risk value is:

$$\text{Risk Exposure} = \text{Risk} * \text{Mitigation Effectiveness} * \text{Monetization}$$

- Risk is the total risk points as determined by WDRM v3 allocated across the HFTD CPZs. The allocation is unique to each CPZ based on the per CPZ ignition probability multiplied by consequence.
- PG&E determined the mitigation effectiveness for each mitigation by assessing its likely effectiveness against thousands of outage combinations (i.e., historical outages by outage type, equipment involved, equipment condition) that occurred in PG&E's HFTD during wildfire season.

¹ D.22-12-027, Phase II Decision Adopting Modifications to the Risk-Based Decision-Making Framework Adopted in D.18-12-014 and Directing Environmental and Social Justice Pilots, p. 63, Ordering Paragraph (OP) 1.

² D.22-12-027, pp. 63-65, OP 2.

- Monetization consists of three elements:
 1. Monetized wildfire risk exposure: This exposure is based on historical wildfire damage. PG&E assigned values of \$1 million per structure lost and \$1,200 per acre burned for fire suppression costs. Values come from the CAL FIRE Redbook.
 2. Monetized reliability: This figure was developed using the Lawrence Berkeley National Laboratory (LBNL) Interruption Cost Estimate (ICE) Calculator, expressed in dollars per customer minute interrupted (CMI)³ and updated to include PG&E-specific information. The reliability value in the WBCA is \$3.16 per CMI. PG&E calculates individual values for normal reliability, EPSS reliability, and PSPS reliability.
 3. Monetized public safety values: These values are based on the California-adjusted Department of Transportation (DOT) Value of a Statistical Life (VSL). The VSL used in the WBCA is \$15 million.

Additional variables and nuances exist within the risk monetization calculations being incorporated into the WBCA that are still being developed. PG&E will provide additional insight to Energy Safety about the WBCA as we continue to build-out the tool and develop our SB884 filing.

- iii. Risk avoidance is the product of the monetized risk of a circuit segment times the applied mitigation effectiveness. For example, if a mitigation with 99% effectiveness is applied to a segment with a risk exposure of \$100 Million, the risk avoidance would be \$99 Million.

b)

- i. PG&E is currently developing the WBCA and intends to introduce it in our SB884 submission. At this time, PG&E is preparing to file our SB884 following the issuance of final SB 884 Plan guidelines from Energy Safety and the CPUC.

PG&E anticipates that we will begin incorporating information from the WBCA into our system hardening and undergrounding project selection and workplans in 2024 for projects with end dates approximately in or after 2027.

- c) PG&E interprets this request as asking if PG&E has compared the simplified risk spend efficiency (SWRSE)⁴ scores with the output from the WBCA. PG&E has not done this comparison because we do not have final WBCA outputs against which to compare the data. PG&E did compare the overlap between the SWRSE and the WDRM as described in response to the Supplemental Revision Notice, pages 76-77.

³ D.22-12-027, p. 64, Ordering Paragraph 2(b).

⁴ See PG&E's 2023-2025 WMP, R3, p. 1127.